

WHAT IS CLAIMED IS:

5 *sub* 1. A system for application development, the system comprising:

a plurality of programming entities comprising:

a workflow;

a run-time container operable to execute the workflow;

a design-time container operable to edit the workflow; and

10 a contract specifying an interaction between at least two programming entities.

2. The system of Claim 1, wherein:

15 an interactive voice response unit comprises the run-time container; and

the workflow is operable to direct the operation of the interactive voice response unit.

20 3. The system of Claim 1, wherein the contract specifies a service provided by the run-time container to the workflow.

25 4. The system of Claim 1 wherein the contract specifies a service provided by the design-time container to the workflow.

5 5. The system of Claim 1, wherein:
 the workflow comprises a workflow step, the workflow
step operable to be used in a plurality of workflows;
 the workflow step comprises a variable;
 a workflow task of the workflow provides a value;
and
 the contract associates the variable with the value.

10 6. The system of Claim 1, wherein:
 the run-time container comprises a workflow
subsystem operable to retrieve an execution context for
the workflow; and
 the contract specifies the execution context.

15 7. The system of Claim 1, wherein:
 the workflow comprises a workflow step operable to
direct an interactive voice response unit to play a
message specified in a message variable;
 a workflow task of the workflow provides a message
20 value corresponding to the message; and
 the contract associates the message value with the
message variable.

25 8. The system of Claim 1, wherein:
 the workflow comprises a workflow step operable to
direct an interactive voice response unit to retrieve
data specified in a data variable;
 a workflow task of the workflow provides a data
value corresponding to the data; and
30 the contract associates the data value with the data
variable.

9. A method for application development, the method comprising:

defining a plurality of programming entities comprising:

5 a workflow;
 a run-time container operable to execute the workflow;
 a design-time container operable to edit the workflow; and

10 defining a contract specifying an interaction between at least two programming entities.

10. The method of Claim 9, further comprising directing the operation of an interactive voice response unit using the workflow, the interactive voice response unit comprising the run-time container.

11. The method of Claim 9, further comprising:
20 defining the contract specifying a service provided by the run-time container to the workflow; and
 executing the workflow using the run-time container.

12. The method of Claim 9, further comprising:
25 defining the contract specifying a service provided by the design-time container to the workflow; and
 editing the workflow using the design-time container.

13. The method of Claim 9, further comprising
defining the contract associating a variable with a
value, a workflow task providing the value and a workflow
step, the workflow step operable to be used in a
plurality of workflows and comprising the variable.

14. The method of Claim 9, further comprising:
defining the contract specifying an execution
context for the workflow; and
retrieving the execution context using the run-time
container.

15. The method of Claim 9, further comprising:
defining the workflow comprising a workflow step
directing an interactive voice response unit to play a
message specified in a message variable, a workflow task
providing a message value corresponding to the message;
defining the contract associating the message value
with the message variable; and
playing the message.

16. The method of Claim 9, further comprising:
defining the workflow comprising a workflow step
directing an interactive voice response unit to retrieve
data specified in a data variable, a workflow task
providing a data value corresponding to the data;
defining the contract associating the data value
with the data variable; and
retrieving the data.

17. Application development software embodied in a computer-readable medium and operable to perform the following:

5 defining a plurality of programming entities comprising:

a workflow;

a run-time container operable to execute the workflow;

10 a design-time container operable to edit the workflow; and

defining a contract specifying an interaction between at least two programming entities.

15 18. The application development software of Claim 17, further operable to perform directing the operation of an interactive voice response unit using the workflow, the interactive voice response unit comprising the run-time container.

20 19. The application development software of Claim 17, further operable to perform:

defining the contract specifying a service provided by the run-time container to the workflow; and

25 executing the workflow using the run-time container.

20. The application development software of Claim 17, further operable to perform:

defining the contract specifying a service provided by the design-time container to the workflow; and

30 editing the workflow using the design-time container.

21. The application development software of Claim 17, further operable to perform defining the contract associating a variable with a value, a workflow task providing the value and a workflow step, the workflow step operable to be used in a plurality of workflows and comprising the variable.

22. The application development software of Claim 17, further operable to perform:

defining the contract specifying an execution context for the workflow; and

retrieving the execution context using the run-time container.

23. The application development software of Claim 17, further operable to perform:

defining the workflow comprising a workflow step directing an interactive voice response unit to play a message specified in a message variable, a workflow task providing a message value corresponding to the message;

defining the contract associating the message value with the message variable; and
playing the message.

24. The application development software of Claim 17, further operable to perform:

defining the workflow comprising a workflow step directing an interactive voice response unit to retrieve data specified in a data variable, a workflow task providing a data value corresponding to the data;

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    defining the contract associating the data value
with the data variable; and
    retrieving the data.

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25. A system for application development, the system comprising:

means for defining a plurality of programming entities comprising:

5 a workflow;

a run-time container operable to execute the workflow;

a design-time container operable to edit the workflow; and

10 means for defining a contract specifying an interaction between at least two programming entities.

26. The system of Claim 25, further comprising means for directing the operation of an interactive voice response unit using the workflow, the interactive voice response unit comprising the run-time container.

27. The system of Claim 25, further comprising:
means for defining the contract specifying a service provided by the run-time container to the workflow; and
20 means for executing the workflow using the run-time container.

28. The system of Claim 25, further comprising:
25 means for defining the contract specifying a service provided by the design-time container to the workflow; and
and
means for editing the workflow using the design-time container.

29. The system of Claim 25, further comprising
means for defining the contract associating a variable
with a value, a workflow task providing the value and a
workflow step, the workflow step operable to be used in a
plurality of workflows and comprising the variable.

30. The system of Claim 25, further comprising:
means for defining the contract specifying an
execution context for the workflow; and
means for retrieving the execution context using the
run-time container.

31. The system of Claim 25, further comprising:
means for defining the workflow comprising a
workflow step directing an interactive voice response
unit to play a message specified in a message variable, a
workflow task providing a message value corresponding to
the message;
means for defining the contract associating the
message value with the message variable; and
means for playing the message.

32. The system of Claim 25, further comprising:
means for defining the workflow comprising a
workflow step directing an interactive voice response
unit to retrieve data specified in a data variable, a
workflow task providing a data value corresponding to the
data;
means for defining the contract associating the data
value with the data variable; and
means for retrieving the data.

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33. A system for application development, the system comprising:

a plurality of programming entities comprising:

a workflow step operable to:

5 direct an interactive voice response unit
to play a message specified in a message variable;

 direct the interactive voice response unit
to retrieve data specified in a data variable;

a workflow comprising the workflow step;

10 a workflow task providing a message value
corresponding to the message and a data value
corresponding to the data;

 a run-time container operable to execute the
workflow;

15 a design-time container operable to edit the
workflow;

a contract associating:

the message value with the message variable;

and

20 the data value with the data variable.